

## CLAIMS

1. A wireless communication apparatus comprising:  
measuring means for measuring reliability of a hard  
decision data resulting from performing a hard decision  
5 on a received signal, using a pre-hard decision data which  
is taken before performing the hard decision on the  
received signal;

weight control means for controlling a weight  
corresponding to the reliability measured in said  
10 measuring means; and

transmission/reception means for performing  
directional transmission and reception using the weight  
controlled in said weight control means.

2. The wireless communication apparatus according to  
15 claim 1, wherein said weight control means switches  
whether or not to update the weight, corresponding to  
the reliability of the hard decision data of the received  
signal.

3. The wireless communication apparatus according to  
20 claim 1, wherein said weight control means performs  
weighting on an error signal obtained from the received  
signal and the hard decision data of the received signal,  
corresponding to the reliability of the hard decision  
data of the received signal.

25 4. The wireless communication apparatus according to  
claim 1, wherein said measuring means obtains likelihood  
from the pre-hard decision data of the received signal

and the hard decision data.

5. The wireless communication apparatus according to claim 1, wherein said measuring means calculates a power of the pre-hard decision data of the received signal.

5 6. A radio base station apparatus provided with a wireless communication apparatus, said wireless communication apparatus comprising:

measuring means for measuring reliability of hard decision data resulting from performing a hard decision  
10 on a received signal using a pre-hard decision data which is taken before performing the hard decision on the received signal;

weight control means for controlling a weight corresponding to the reliability measured in said  
15 measuring means; and

transmission/reception means for performing directional transmission and reception using the weight controlled in said weight control means.

7. A radio mobile station apparatus provided with a  
20 wireless communication apparatus, said wireless communication apparatus comprising:

measuring means for measuring reliability of hard decision data resulting from performing a hard decision on a received signal, using a pre-hard decision data which  
25 is taken before performing the hard decision on the received signal;

weight control means for controlling a weight

corresponding to the reliability measured in said measuring means; and

transmission/reception means for performing directional transmission and reception using the weight  
5 controlled in said weight control means.

8. A wireless communication method, comprising;

measuring reliability of hard decision data of a received signal, using pre-hard decision data of the received signal;

10 controlling a weight corresponding to the measured reliability;

multiplying the received signal by the controlled weight; and

performing directional transmission and reception.

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